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SESSION RESUMED IN FILE 'CAPLUS' AT 14:45:43 ON 04 OCT 2002

FILE 'CAPLUS' ENTERED AT 14:45:43 ON 04 OCT 2002

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=> d his

(FILE 'HOME' ENTERED AT 13:02:27 ON 04 OCT 2002)

FILE 'REGISTRY' ENTERED AT 13:02:40 ON 04 OCT 2002

L1 STR  
L2 STR  
L3 0 S L2  
L4 11 S L2 FUL

FILE 'CHEMCATS' ENTERED AT 13:18:55 ON 04 OCT 2002  
L5 6 S L4

FILE 'REGISTRY' ENTERED AT 13:22:18 ON 04 OCT 2002

FILE 'BEILSTEIN' ENTERED AT 13:46:49 ON 04 OCT 2002  
L6 0 S L2 FUL

FILE 'REGISTRY' ENTERED AT 14:23:43 ON 04 OCT 2002  
L7 2 S ASCORBIC ACID/CN

FILE 'CAPLUS' ENTERED AT 14:24:05 ON 04 OCT 2002  
L8 57341 S SULFITE?  
L9 664 S L7 AND L8  
L10 859 S L7/P  
L11 664 S L7 AND L8  
L12 10 S L8 AND L10

=> fil reg

FILE 'REGISTRY' ENTERED AT 14:46:14 ON 04 OCT 2002  
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STRUCTURE FILE UPDATES: 3 OCT 2002 HIGHEST RN 459123-02-5  
DICTIONARY FILE UPDATES: 3 OCT 2002 HIGHEST RN 459123-02-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STNote 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>  
.REGISTRY' IS DEFAULT FORMAT FOR 'REGISTRY' FILE

```
=> s sulfurous acid/cn  
L13      1 SULFUROUS ACID/CN
```

```
=> fil caplus  
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FILE COVERS 1907 - 4 Oct 2002 VOL 137 ISS 15  
FILE LAST UPDATED: 3 Oct 2002 (20021003/ED)

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\*\*\* YOU HAVE NEW MAIL \*\*\*

```
=> s l13/cat  
      1771 L13  
      448937 CAT/RL  
L14      69 L13/CAT  
          (L13 (L) CAT/RL)
```

```
=> s l10 and l14  
L15      0 L10 AND L14
```

```
=> s sulfurous acid  
      4867 SULFUROUS  
      3445451 ACID  
L16      2678 SULFUROUS ACID  
          (SULFUROUS(W)ACID)
```

```
=> s l16 and l10  
      222773 110  
L17      41 L16 AND 110
```

=> d tot ti can

```
L17 ANSWER 1 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Effect of Coadsorbed Species and Temperature on Competitive Reaction  
Channels for Nascent Radicals: c-C3H7CH2SH on Mo(110)-(6 .mu.e  
1)-O  
136:183478
```

```
L17 ANSWER 2 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Manufacture of acrylonitrile polymers with decreased water content  
135:345181
```

L17 ANSWER 3 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Phosphates purification by removal of metal chromophores  
133:60942

L17 ANSWER 4 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Vapor-liquid-solid equilibria of sulfur dioxide in aqueous electrolyte  
solutions  
132:283465

L17 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Three-step preparation of mechanical wood pulps with a chemical  
intermediate stage with reduced energy  
130:111699

L17 ANSWER 6 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Method for treating humidified incinerator flue gas by electron beam  
irradiation and scrubbing  
128:171511

L17 ANSWER 7 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Processing of fabrics by crosslinking of cellulosic fibers to give easy  
care property, permanent press property, and shrink inhibition  
125:278545

L17 ANSWER 8 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Process for removal of aldehyde impurities from  
oxo(phenylmethylene)alkanoates  
125:142282

L17 ANSWER 9 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Purification of (N-alkyl) aminoethanesulfonic acid alkali metal salts  
124:145430

L17 ANSWER 10 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Process for reducing moisture absorption of sintered polybenzimidazole  
products  
120:246958

L17 ANSWER 11 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Preparation of alkyl glycosides in one step.  
118:147975

L17 ANSWER 12 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Acid-processing of aluminum-bearing layered minerals  
116:238432

L17 ANSWER 13 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Effect of temperature and ionic impurities at very low concentrations on  
stress corrosion cracking of AISI 304 stainless steel  
110:42735

L17 ANSWER 14 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Laboratory investigation of **sulfurous acid** leaching of  
kaolin for preparing alumina  
96:9853

L17 ANSWER 15 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Studies on lignin. 110. Studies on water solubilization of  
lignin. 1  
93:48804

L17 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI The effect of various methods for sweetening wines or **sulfurous**

acid content and sensory evaluation  
88:4690

L17 ANSWER 17 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Manufacture of paper pulp with a very high yield  
87:203326

L17 ANSWER 18 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Two-stage sulfite method for the delignification of spruce and pinewood  
82:141832

L17 ANSWER 19 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Wood pulping  
77:103572

L17 ANSWER 20 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI White pulp for paper  
74:113483

L17 ANSWER 21 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Sulfonation of synthetic fatty acids, natural and synthetic fats with sodium bisulfite  
70:97977

L17 ANSWER 22 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Aryl esters of carboxylic acids  
70:77610

L17 ANSWER 23 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Optically active organic sulfites: sulfur as an asymmetric center  
70:11254

L17 ANSWER 24 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Geochemical studies on Tamagawa Hot Spring  
63:70576

L17 ANSWER 25 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Potentiometric determinations of **sulfurous acid** and lime in tower acid and in cooking liquor  
60:10506

L17 ANSWER 26 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI .alpha.-Halogenated amines. X. The reaction of aminals and .alpha.-dialkylamino ethers with inorganic acid halides  
58:3214

L17 ANSWER 27 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Decomposition of kaolin with **sulfurous acid** in a continuous process  
56:77834

L17 ANSWER 28 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Spirocyclic esters of **sulfurous acid** as pesticides  
50:61918

L17 ANSWER 29 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Vat dyes containing sulfur  
49:18182

L17 ANSWER 30 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Protein hydrolysis. II. Use of **sulfurous acid** for the control of humin formation and loss of tryptophan during acid hydrolysis  
49:16351

L17 ANSWER 31 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Polyfluoroethane sulfonyl compounds  
41:11924

L17 ANSWER 32 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI The catalytic action of Japanese acid earth. XI. The isomerization of aldehydes to ketones and the explanation of the migration of the radicals from the standpoint of the electronic theory  
36:29158

L17 ANSWER 33 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Esters of **sulfurous acid**. IV. Action of sulfurous esters on amino acids  
31:24938

L17 ANSWER 34 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Behavior of cellulose toward bisulfite liquor and **sulfurous acid** solution. I. Experiments at 110.degree.  
24:45571

L17 ANSWER 35 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Electrical conductivity studies of the interaction of **sulfurous acid** and certain aldehydes  
24:41012

L17 ANSWER 36 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Contribution to the study of the use of **sulfurous acid** in wine making. II. Use of **sulfurous acid** as a preservative in grape musts and in sweet white wines  
22:20776

L17 ANSWER 37 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI The action of aqueous **sulfurous acid** on lignocellulose. II  
19:21079

L17 ANSWER 38 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Action of aqueous **sulfurous acid** on lignocellulose  
18:22510

L17 ANSWER 39 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Lignone derivatives; cellulose; **sulfurous acid**; tanning  
18:2167

L17 ANSWER 40 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Aldehydes of the pyridine and piperidine series  
9:17596

L17 ANSWER 41 OF 41 CAPLUS COPYRIGHT 2002 ACS  
TI Aldehydosulfites of Vegetable Alkaloids  
5:15300

=> fil stnindex  
TO ENTER STNINDEX, USE THE 'INDEX' COMMAND  
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SESSION CONTINUES IN FILE 'CAPLUS'

=> fil stnguide  
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=> fil caplus  
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FILE COVERS 1907 - 4 Oct 2002 VOL 137 ISS 15  
FILE LAST UPDATED: 3 Oct 2002 (20021003/ED)

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=> d 117 5 cbib abs

L17 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2002 ACS  
1999:64648 Document No. 130:111699 Three-step preparation of mechanical wood pulps with a chemical intermediate stage with reduced energy. Barnet, Adrian J. (Donohue Inc., Can.). Eur. Pat. Appl. EP 892107 A1 19990120, 22 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW.  
APPLICATION: EP 1998-305702 19980716. PRIORITY: US 1997-52924 19970717.  
AB A refiner mech. pulp having substantially the same overall pulp quality as com. thermomech. pulps is produced by disk refining of unsoftened wood chips at .ltoreq..apprx.0.75 MWh/odt, treating the pulp with a sol. salt of **sulfurous acid** at >110.degree. and superatm. pressure while maintaining the pH at >3 with alkali to 0.3-2 wt.% sulfonation and >85 wt.% chem. treated pulp yield, and mech. refining the pulp to Canadian std. freeness 50-700.

=> s 110 and 116  
L18 1 L10 AND L16

=> d cbib abs

L18 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS  
2002:504774 Document No. 137:63425 Process for producing ascorbic acid in the presence of a sulfite. Arumugam, Bhaskar; Collins, Nick; Boyd, Brendan; Perri, Steven; Powell, Jeffery; Cushman, Michael (Eastman Chemical Company, USA). PCT Int. Appl. WO 2002051827 A1 20020704, 44 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,

GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US49859 20011221. PRIORITY: US 2000-PV257991 20001222; US 2001-PV314999 20010824.

AB The present invention comprises the use of sulfite additives to reduce discoloration of L-ascorbic acid produced from acid or aq. solns. of 2-keto-L-gulonic acid. In one aspect, the present invention comprises a continuous process for producing L-ascorbic acid from an aq. soln. of 2-keto-L-gulonic acid. The use of sulfite additives reduces product stream color and improves product recovery by binding to high mol. wt. reaction byproducts. In a continuous process, the reaction stream is sep'd. from residual sulfite and sulfite-bound byproducts to produce a product stream enriched in aq. ascorbic acid for recovery, and an enriched 2-keto-L-gulonic acid stream which is recycled to the reactor. The in situ use of sulfite additives during the reaction increases the overall yield of L-ascorbic acid, with no loss in selectivity of the synthesis.

=> fil beil  
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FILE COVERS 1779 TO 2001.

\*\*\* FILE CONTAINS 8,128,462 SUBSTANCES \*\*\*

>>> For the revised summary sheet please see:  
[<<<](http://info.cas.org/ONLINE/DBSS/beilsteinss.html)

>>> PLEASE NOTE: Reaction and substance documents are stored in different file segments. Use separate queries to search for reaction and substance data. When searching for bibliographic information you have the option to chose the file segment.  
(Use "/XXX.SUB" to search for a bibliographic term in substance documents. To restrict the search to reaction documents use "/XXX.RX".)  
For additional information see HELP RXS. <<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

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\* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE \*  
\* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS. \*  
\* FOR PRICE INFORMATION SEE HELP COST \*  
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\*\*\* YOU HAVE NEW MAIL \*\*\*

=> s ascorbic acid/cn  
L19 5 ASCORBIC ACID/CN

=> d fa

L19 ANSWER 1 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
CDER	Chemical Derivative	1

=> d brn

L19 ANSWER 1 OF 5 BEILSTEIN COPYRIGHT 2002 BEILSTEIN CDS MDL

Beilstein Records (BRN) : 6504350

=> d 2-5 fa

L19 ANSWER 2 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
RN	CAS Registry Number	8
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	2
ED	Entry Date	1
UPD	Update Date	1
DE	Dissociation Exponent	1
ELCB	Electrochemical Behaviour	1
REAX	Use D FRX for Non-Graphical Reactions	2

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	2
RXREA	Substance is Reaction Reactant	2

L19 ANSWER 3 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	7
CN	Chemical Name	1
AUN	Autonomname	1
LSF	Linearized Structure Formula	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
ELCB	Electrochemical Behaviour	1
PHARM	Pharmacological Data	1
POT	Electrochemical Characteristics	3
UVS	UV and Visible Spectrum	2

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	4
RXREA	Substance is Reaction Reactant	4

L19 ANSWER 4 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	8
CN	Chemical Name	2
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
CTYPE	Compound Type	1
BSO	Beilstein Citation	2
ED	Entry Date	1
UPD	Update Date	1
CDISP	Compound Disposition	1
ASSM	Association (MCS)	1
CDER	Chemical Derivative	11
DE	Dissociation Exponent	1
DIC	Dielectric Constant	1
ELCB	Electrochemical Behaviour	2
ELE	Electrical Data (MCS)	1
ESR	ESR Data	1
FINFO	Further Information	2
INP	Isolation from Natural Product	2
IR	Infrared Spectrum	3
LUM	Luminescence	1

MP	Melting Point	3
MS	Mass Spectrum	3
NMR	Nuclear Magnetic Resonance	4
ORP	Optical Rotatory Power	2
PHARM	Pharmacological Data	2
POT	Electrochemical Characteristics	6
REAX	Use D FRX for Non-Graphical Reactions	30
TRAM	Transport Phenomena (MCS)	1
UVS	UV and Visible Spectrum	3
XREF	Crossfile Reference	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	2
RXREA	Substance is Reaction Reactant	2

L19 ANSWER 5 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	8
CN	Chemical Name	7
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	3
ED	Entry Date	1
UPD	Update Date	1
ADSM	Adsorption (MCS)	3
ASSM	Association (MCS)	48
BIO	Biological Behaviour	1
CDEN	Density (Crystal)	4
CDER	Chemical Derivative	35
CDIC	Circular Dichroism	2
CNF	Conformation	2
COEV	Concentration in Environment	1
CRYPH	Crystal Phase	4
CSG	Crystal Space Group	2
CSYS	Crystal System	1
DE	Dissociation Exponent	31
DM	Dipole Moment	3
ECTOX	Ecotoxicology	20
ELCB	Electrochemical Behaviour	6
ELE	Electrical Data (MCS)	3
ENEM	Energy Data (MCS)	5
EOD	Oxygen Demand	3
ESR	ESR Data	3
FINFO	Further Information	2
FLU	Fluorescence	1
GEO	Interatomic Distanc and Angle	4
HCOM	Enthalpy of Combustion	1
HFOR	Enthalpy of Formation	1

INP	Isolation from Natural Product	13
IR	Infrared Spectrum	15
LSSM	Liquid/Solid System (MCS)	8
LUM	Luminescence	1
LVSM	Liquid/Vapour System (MCS)	1
MEC	Mechanical Property	1
MECM	Mechanical & Physical Property (MCS)	2
MP	Melting Point	13
MS	Mass Spectrum	3
MSUS	Magnetic Susceptibility	1
NMR	Nuclear Magnetic Resonance	29
OPT	Optics	4
ORD	Optical Rotatory Dispersion	8
ORP	Optical Rotatory Power	28
OTHE	Other Thermochemical Data	1
PHARM	Pharmacological Data	292
POT	Electrochemical Characteristics	22
PUR	Purification	1
RAS	Raman Spectrum	6
RSTR	Related Structure	2
SDIF	Self Diffusion	2
SLB	Solubility (MCS)	6
SOLM	Solution Behaviour (MCS)	1
TRAM	Transport Phenomena (MCS)	6
USC	Use of Compound	8
UVS	UV and Visible Spectrum	46
XREF	Crossfile Reference	17

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	274
RXREA	Substance is Reaction Reactant	256
RXPRO	Substance is Reaction Product	18

=> d 5 rxpro

L19 ANSWER 5 OF 5 BEILSTEIN COPYRIGHT 2002 BEILSTEIN CDS MDL

Reaction:

RX	Reaction ID:	8727431
	Reactant BRN:	8734549
	Reactant:	3,4-dihydroxy-5R-<2(R,S)-(6-hydroxy-2,5,7,8-tetramethylchroman-2(R and S)yl-methyl)-<1,3>dioxolan-4S-yl>-5H-furan-2-one
	Product BRN:	8702333, 84272
	Product:	(6-hydroxy-2,5,7,8-tetramethyl-chroman-2-yl)-acetaldehyde, (R)-5-((S)-1,2-dihydroxyethyl)-3,4-dihydroxy-5H-furan-2-one
	No. of Reaction Details:	1

Reaction Details:

RX	Reaction RID:	8727431.1
	Reaction Classification:	Chemical behaviour
	Reagent:	H2O
	Temperature:	37 Cel
	pH Value:	3
	Subject Studied:	Kinetics

Prototype Reaction: Further Variations:, pH-values  
Reference(s):  
1. Manfredini, Stefano; Vertuani, Silvia; Manfredi, Barbara; Rossoni, Giuseppe; Calviello, Gabriella; Palozza, Paola, Bioorg.Med.Chem., CODEN: BMECEP, 8(12), <2000>, 2791 - 2802; BABS-6262051

Reaction:

RX

Reaction ID: 8263375  
Reactant BRN: 1718733, 3154831  
Reactant: NaHCO<sub>3</sub>, ethanol, L-xylo-<2>hexulosonic acid phenethyl ester  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 8263375.1  
Reaction Classification: Chemical behaviour  
Note(s): Handbook  
Reference(s):  
1. Patent: Hoffmann-La Roche US 2265121 1936

Reaction:

RX

Reaction ID: 7065387  
Reactant BRN: 1727055  
Reactant: aqueous hydrochloric acid <11 n>, L-xylo-<2>hexulosonic acid methyl ester  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 7065387.1  
Reaction Classification: Chemical behaviour  
Temperature: 60 Cel  
Other Conditions: Auch bei 70 gradC.  
Subject Studied: Rate constant  
Note(s): Handbook  
Reference(s):  
1. Wechsler; Schaltyko, Zh.Obshch.Khim., CODEN: ZOKHA4, 26, <1956>, 1456, 1459; engl. Ausg. S. 1639, 1642

Reaction:

RX

Reaction ID: 7065386  
Reactant BRN: 1718793, 4652394, 3587155, 1723811  
Reactant: hydrogen cyanide, hydrocyanic acid; potassium salt, water, L-threo-<2>pentosulose  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 7065386.1  
Reaction Classification: Chemical behaviour

Other Conditions: Beim anschliessenden Erwaermen mit  
wss.Salzsaeure  
Note(s): Handbook  
Reference(s):  
1. Reichstein et al., Helv.Chim.Acta, CODEN: HCACAV, 16, <1933>, 1019, 1027, 1030

Reaction:

RX

Reaction ID: 7065385  
Reactant BRN: 1098214, 3587155, 1726798  
Reactant: hydrochloric acid, water,  
L-xylo-<2>hexulosonic acid  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 7065385.1  
Reaction Classification: Chemical behaviour  
Temperature: 60 Cel  
Other Conditions: und 70grad  
Subject Studied: Rate constant  
Note(s): Handbook  
Reference(s):  
1. Weksler; Schaltyko, Zh.Obschch.Khim., CODEN: ZOKHA4, 26, <1956>, 1458, 1459; engl. Ausg. S. 1639, 1642  
2. Regna; Caldwell, J.Amer.Chem.Soc., CODEN: JACSAT, 66, <1944>, 246, 249

Reaction:

RX

Reaction ID: 5708398  
Reactant BRN: 1761503  
Reactant: tetra-O-acetyl-L-xylononitrile, oxomalonic acid monoethyl ester  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708398.1  
Reaction Classification: Preparation  
Reagent: sodium methylate, methanol  
Note(s): Handbook  
Reference(s):  
1. Patent: Winthrop Chem. Co. US 2207680 1939  
2. Patent: I.G. Farbenind. DE 683954 1936, DRP/DRBP Org.Chem.

Reaction:

RX

Reaction ID: 5708397  
Reactant BRN: 1703574  
Reactant: tetra-O-acetyl-L-xylononitrile,  
ethoxy-hydroxy-acetic acid ethyl ester  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708397.1  
Reaction Classification: Preparation  
Reagent: sodium methylate, methanol  
Note(s): Handbook  
Reference(s):  
1. Stedehouder, Recl.Trav.Chim.Pays-Bas, CODEN: RTCPA3, 71, <1952>, 831,  
835

Reaction:

RX

Reaction ID: 5708396  
Reactant BRN: 1209486  
Reactant: tetra-O-acetyl-L-xylononitrile, oxoacetic acid ethyl ester  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxyethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708396.1  
Reaction Classification: Preparation  
Reagent: sodium methylate, methanol  
Note(s): Handbook  
Reference(s):  
1. Helferich; Peters, Chem.Ber., CODEN: CHBEAM, 70, <1937>, 465, 468

Reaction:

RX

Reaction ID: 5708395  
Reactant BRN: 3587155, 84277  
Reactant: platinum, water, (R)-5-((S)-1,2-dihydroxyethyl)-furan-2,3,4-trione  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxyethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708395.1  
Reaction Classification: Chemical behaviour  
Other Conditions: in Gegenwart von Riboflavin.Hydrogenation  
Note(s): Handbook  
Reference(s):  
1. Hand; Greisen, J.Amer.Chem.Soc., CODEN: JACSAT, 64, <1942>, 358

Reaction:

RX

Reaction ID: 5708394  
Reactant: O2,O3;O4,O6-diisopropylidene-.xi.-L-xylo-<2>hexofuranosonic acid-monohydrate  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxyethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 3

Reaction Details:

RX

Reaction RID: 5708394.1  
Reaction Classification: Preparation (half reaction)  
Reagent: butan-1-ol, HCl, benzene

Note(s): Handbook  
Reference(s):  
1. Sano; Watanabe, Takamine Kenkyusho Nempo, CODEN: TKNEAI, 7, <1955>, 27, Chem. Abstr., <1956>, 14540

RX

Reaction RID: 5708394.2  
Reaction Classification: Preparation (half reaction)  
Reagent: HCl, water  
Note(s): Handbook  
Reference(s):  
1. Patent: Hoffmann-La Roche US 2443487 1945  
2. Slobodin; Basowa, Zh.Prikl.Khim.(Leningrad), CODEN: ZPKHAB, 19, <1946>, 172, 174, Chem. Abstr., <1947>, 2395  
3. Patent: Merck & Co. Inc. US 2444087 1945  
4. Patent: Merck, E. DE 676011 1935, Fortschr.Teerfarbenfabr.Verw. Industrie zweige, 25, 425  
5. Reichstein; Gruessner, Helv.Chim.Acta, CODEN: HCACAV, 17, <1934>, 311, 326

RX

Reaction RID: 5708394.3  
Reaction Classification: Preparation (half reaction)  
Reagent: ethanol, HCl  
Note(s): Handbook  
Reference(s):  
1. Rumpf; Marlier, Bull.Soc.Chim.Fr., CODEN: BSCFAS, <1959>, 187, 190  
2. Beresowskii; Strel'tschunas, Zh.Obshch.Khim., CODEN: ZOKHA4, 20, <1950>, 2072, 2075; engl. Ausg. S. 2145, 2147  
3. Maximow et al., Zh.Obshch.Khim., CODEN: ZOKHA4, 9, <1939>, 936, 942, Chem.Zentralbl., CODEN: CHZEA6, 111(I), <1940>, 872  
4. Elger, Festschrift E. Barell <Basel 1936> S. 229, 236  
5. Patent: Hoffmann-La Roche US 2129317 1936

Reaction:

RX

Reaction ID: 5708393  
Reactant: O2,O3;O4,06-diisopropylidene-.xi.-L-xylo-<2>hexofuranosonic acid methyl ester  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708393.1  
Reaction Classification: Preparation (half reaction)  
Reagent: HCl, water, ethanol  
Note(s): Handbook  
Reference(s):  
1. Patent: Hoffmann-La Roche DE 641639 1935, Fortschr.Teerfarbenfabr.Verw. Industriezweige, 23, 615

Reaction:

RX

Reaction ID: 5708392  
Reactant BRN: 29883  
Reactant: aqueous hydrochloric acid (5n), O2,O3;O4,06-diisopropylidene-.alpha.-L-xylo-<2>hexulofuranosonic acid  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 2

Reaction Details:

RX

Reaction RID: 5708392.1  
Reaction Classification: Chemical behaviour  
Temperature: 60 Cel  
Subject Studied: Rate constant  
Note(s): Handbook  
Reference(s):  
1. Weksler; Schaltyko, Zh.Obsch.Khim., CODEN: ZOKHA4, 26, <1956>, 1456,  
1459; engl. Ausg. S. 1639, 1642

RX

Reaction RID: 5708392.2  
Reaction Classification: Chemical behaviour  
Temperature: 70 Cel  
Subject Studied: Rate constant  
Note(s): Handbook  
Reference(s):  
1. Weksler; Schaltyko, Zh.Obsch.Khim., CODEN: ZOKHA4, 26, <1956>, 1456,  
1459; engl. Ausg. S. 1639, 1642

Reaction:

RX

Reaction ID: 5708391  
Reactant BRN: 29883  
Reactant: aqueous hydrochloric acid (11n),  
O2,O3;O4,O6-diisopropylidene-.alpha.-L-xylo-  
<2>hexulofuranosonic acid  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-  
dihydroxy-5H-furan-2-one  
No. of Reaction Details: 2

Reaction Details:

RX

Reaction RID: 5708391.1  
Reaction Classification: Chemical behaviour  
Temperature: 60 Cel  
Subject Studied: Rate constant  
Note(s): Handbook  
Reference(s):  
1. Weksler; Schaltyko, Zh.Obsch.Khim., CODEN: ZOKHA4, 24, <1954>, 1422,  
1426; engl. Ausg. S. 1403, 1405

RX

Reaction RID: 5708391.2  
Reaction Classification: Chemical behaviour  
Temperature: 70 Cel  
Subject Studied: Rate constant  
Note(s): Handbook  
Reference(s):  
1. Weksler; Schaltyko, Zh.Obsch.Khim., CODEN: ZOKHA4, 24, <1954>, 1422,  
1426; engl. Ausg. S. 1403, 1405

Reaction:

RX

Reaction ID: 5708390  
Reactant BRN: 506006, 3587155, 84277  
Reactant: thioacetamide, water, (R)-5-((S)-1,2-  
dihydroxy-ethyl)-furan-2,3,4-trione  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-  
dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708390.1  
Reaction Classification: Chemical behaviour  
Note(s): Handbook  
Reference(s):  
1. Wendland, Arch.Pharm.(Weinheim Ger.), CODEN: ARPMAS, 286, <1953>, 158,  
162

Reaction:

RX

Reaction ID: 5708389  
Reactant BRN: 3587155, 3535004, 84277  
Reactant: water, H<sub>2</sub>S, (R)-5-((S)-1,2-dihydroxy-ethyl)-furan-2,3,4-trione  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708389.1  
Reaction Classification: Chemical behaviour  
Note(s): Handbook  
Reference(s):  
1. Levenson et al., Arch.Biochem., CODEN: ARBIAE, 33, <1951>, 50, 52  
2. Huelin, Austral. J. scient. Res. <B>, 2, <1949>, 346, 347  
3. Roe et al., J.Biol.Chem., CODEN: JBCHA3, 174, <1948>, 201, 204  
4. Fujita; Ebihara, Biochem.Z., CODEN: BIZEA2, 300, <1939>, 136, 141  
5. Ghosh; Rakshit, Biochem.Z., CODEN: BIZEA2, 299, <1938>, 394, 401  
6. Herbert et al., J.Chem.Soc., CODEN: JCSOA9, <1933>, 1270, 1282

Reaction:

RX

Reaction ID: 5708388  
Reactant BRN: 1729812, 3587155, 84277  
Reactant: L-\$g-glutamyl->-L-cysteinyl->-glycine, water, (R)-5-((S)-1,2-dihydroxy-ethyl)-furan-2,3,4-trione  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708388.1  
Reaction Classification: Chemical behaviour  
Note(s): Handbook  
Reference(s):  
1. Parrot; Dambrine, Bull.Soc.Chim.Biol., CODEN: BSCIA3, 38, <1956>, 1355, 1359  
2. Borsook et al., J.Biol.Chem., CODEN: JBCHA3, 117, <1937>, 237, 270  
3. Kohman; Sanborn, Ind.Eng.Chem., CODEN: IECHAD, 29, <1937>, 1195, 1199

Reaction:

RX

Reaction ID: 5708387  
Reactant BRN: 3587155, 83002  
Reactant: water, L-gulonic acid-4-lactone  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 3

Reaction Details:

RX

Reaction RID: 5708387.1  
Reaction Classification: Chemical behaviour  
Other Conditions: Einwirkung von Roentgen-Strahlen  
Note(s): Handbook  
Reference(s):  
1. Coleby, Chem. Ind. (London), CODEN: CHINAG, <1957>, 111

RX

Reaction RID: 5708387.2  
Reaction Classification: Chemical behaviour  
Other Conditions: Einwirkung von  $\gamma$ -Strahlen  
Note(s): Handbook  
Reference(s):  
1. Coleby, Chem. Ind. (London), CODEN: CHINAG, <1957>, 111

RX

Reaction RID: 5708387.3  
Reaction Classification: Chemical behaviour  
Other Conditions: Einwirkung von Kathoden-Strahlen  
Note(s): Handbook  
Reference(s):  
1. Coleby, Chem. Ind. (London), CODEN: CHINAG, <1957>, 111

Reaction:

RX

Reaction ID: 5708386  
Reactant BRN: 3587155, 11310  
Reactant: water, (R)-2-((S)-1,2-dihydroxy-ethyl)-4-hydroxy-5-methoxy-furan-3-one  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708386.1  
Reaction Classification: Chemical behaviour  
Note(s): Handbook  
Reference(s):  
1. Haworth et al., J.Chem.Soc., CODEN: JCSOA9, <1937>, 829, 832

Reaction:

RX

Reaction ID: 5708385  
Reactant BRN: 1098214, 28323  
Reactant: hydrochloric acid, O4,O6-isopropylidene-L-xylo-<2>hexulosonic acid butyl ester  
Product BRN: 84272  
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one  
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708385.1  
Reaction Classification: Chemical behaviour  
Note(s): Handbook  
Reference(s):  
1. Patent: Chem. Fabr. Naarden US 2491933 1946

Reaction:

RX

Reaction ID: 5708384  
 Product BRN: 84272  
 Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-  
 dihydroxy-5H-furan-2-one  
 No. of Reaction Details: 1

Reaction Details:

RX

- Reaction RID: 5708384.1  
 Reaction Classification: Preparation (half reaction)  
 Reference(s):  
 1. Wechsler; Schaltyko, J.Gen.Chem.USSR (Engl.Transl.), CODEN: JGCHA4, 24, <1954>, 1403, 1404-1407, Zh.Obshch.Khim., CODEN: ZOKHA4, 24, <1954>, 1425, Chem.Abstr.(7545), <1955>  
 2. Weksler; Schaltyko, J.Gen.Chem.USSR (Engl.Transl.), CODEN: JGCHA4, 26, <1956>, 1639, Zh.Obshch.Khim., CODEN: ZOKHA4, 26, <1956>, 1456, Chem.Abstr.(14551), <1956>  
 3. Harris et al., J.Amer.Chem.Soc., CODEN: JACSAT, 94, <1972>, 7570  
 4. Ogawa et al., Carbohydr.Res., CODEN: CRBRAT, 51, <1976>, C1,C2-C4  
 5. Ferrier; Furneaux, J.Chem.Soc.Chem.Commun., CODEN: JCCCAT, <1977>, 332  
 6. Bakke; Theander, J.Chem.Soc.D, CODEN: CCJDAO, <1971>, 175  
 7. Kitahara et al., Agric.Biol.Chem., CODEN: ABCHA6, 38, <1974>, 2189  
 8. Andrews et al., J.Chem.Soc.Chem.Commun., CODEN: JCCCAT, <1979>, 740  
 9. Ferrier; Furneaux, J.Chem.Soc.Perkin Trans.1, CODEN: JCPRB4, <1977>, 1996, 2000  
 10. Bakke; Theander, J.Chem.Soc.D, CODEN: CCJDAO, <1971>, 175  
 11. Bakke; Theander, J.Chem.Soc.D, CODEN: CCJDAO, <1971>, 175  
 12. Bogoczek, Zesz.Nauk.Politech.Slask.Chem., CODEN: ZNSCAM, 51, <1970>, 1, 56-58  
 13. Patent: Takeda Chem. Ind. Ltd. DE 2127659 1970, Chem.Abstr., 76(59982u), <1972>  
 14. Dietz, Justus Liebigs Ann. Chem., CODEN: JLACBF, 738, <1970>, 206  
 15. Ferrier; Furneaux, J.Chem.Soc.Chem.Commun., CODEN: JCCCAT, <1977>, 332  
 16. Ferrier; Furneaux, J.Chem.Soc.Chem.Commun., CODEN: JCCCAT, <1977>, 332  
 17. Ogawa et al., Carbohydr.Res., CODEN: CRBRAT, 51, <1976>, C1,C2-C4

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